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PATENT  
Attorney Docket No. ASX-015CP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Chen et al. GROUP NO.: 3742  
SERIAL NO.: 09/774,165 EXAMINER: M. Paschall  
FILING DATE: January 26, 2001  
TITLE: INTEGRATED PLASMA CHAMBER AND INDUCTIVELY-COUPLED  
TOROIDAL PLASMA SOURCE

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any document(s) referred to as enclosed herein, is/are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 13<sup>th</sup> day of May, 2004.

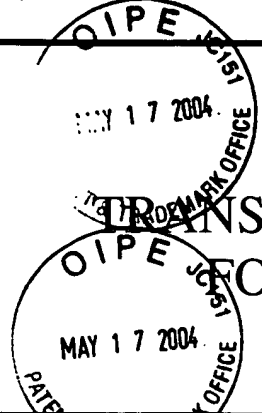
  
Olivia J. Mannion

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:


Submitted herewith are: Transmittal Form (1 page); Fee Transmittal; Supplemental Information Disclosure Statement (3 pages); PTO Form-1449 (3 pages); References Labeled A124 to A140, B7 to B9 and C126 to C144; Check in the Amount of \$180; and a return receipt postcard.

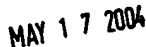
3742/\$

 <p style="text-align: center;"><b>TRANSMITTAL FORM</b></p>	Application Serial Number	09/774,165
	Filing Date	January 26, 2001
	First Named Inventor	Chen
	Group Art Unit	3742
	Examiner Name	M. Paschall
	Attorney Docket No.	ASX-015CP
	Patent No.	Not applicable
	Issue Date	Not applicable

**ENCLOSURES (check all that apply)**

<input checked="" type="checkbox"/> <b>Fee Transmittal Form</b> <input checked="" type="checkbox"/> Check Attached <input type="checkbox"/> Copy of Fee Transmittal Form  <input type="checkbox"/> <b>Amendment/Response</b> <input type="checkbox"/> Preliminary <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Letter to Official Draftsperson including Drawings [Total Sheets ____]  <input type="checkbox"/> <b>Petition for Extension of Time</b>  <input checked="" type="checkbox"/> <b>Supplemental Information Disclosure Statement</b> <input checked="" type="checkbox"/> Form PTO-1449 <input checked="" type="checkbox"/> Copies of IDS Citations labeled A124 to A140, B7 to B9 and C126 to C144  <input type="checkbox"/> <b>Certified Copy of Priority Document(s)</b>  <input type="checkbox"/> <b>Sequence Listing submission</b> <input type="checkbox"/> Paper Copy/CD <input type="checkbox"/> Computer Readable Copy <input type="checkbox"/> Statement verifying identity of above	<input type="checkbox"/> <b>Copy of Notice to File Missing Parts of Application (PTO-1553)</b>  <input type="checkbox"/> <b>Formal Drawing(s)</b>  <input type="checkbox"/> <b>Request For Continued Examination (RCE) Transmittal</b>  <input type="checkbox"/> <b>Power of Attorney (Revocation of Prior Powers)</b>  <input type="checkbox"/> <b>Terminal Disclaimer</b>  <input type="checkbox"/> <b>Executed Declaration and Power of Attorney for Utility or Design Patent Application</b>  <input type="checkbox"/> <b>Small Entity Statement</b>  <input type="checkbox"/> <b>CD(s) for large table or computer program</b>  <input type="checkbox"/> <b>Amendment After Allowance</b>  <input type="checkbox"/> <b>Request for Certificate of Correction</b> <input type="checkbox"/> Certificate of Correction (in duplicate)	<input type="checkbox"/> <b>Notice of Appeal to Board of Patent Appeals and Interferences</b>  <input type="checkbox"/> <b>Appeal Brief (in triplicate)</b>  <input type="checkbox"/> <b>Status Inquiry</b>  <input checked="" type="checkbox"/> <b>Return Receipt Postcard</b> <input checked="" type="checkbox"/> <b>Certificate of First Class Mailing under 37 C.F.R. 1.8</b>  <input type="checkbox"/> <b>Certificate of Facsimile Transmission under 37 C.F.R. 1.8</b>  <input type="checkbox"/> <b>Additional Enclosure(s) (please identify below)</b>
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CORRESPONDENCE ADDRESS	SIGNATURE BLOCK
Direct all correspondence to: Patent Administrator Proskauer Rose LLP One International Place 14 <sup>th</sup> Floor Boston, MA 02110-2600 Tel. No.: (617) 526-9600 Fax No.: (617) 526.9899	Respectfully submitted,   Date: May 13, 2004 Reg. No.: 36,471 Tel. No.: (617) 526-9800 Fax No.: (617) 526-9899 Joseph A. Capraro, Jr. Attorney for the Applicant(s) Proskauer Rose LLP One International Place 14 <sup>th</sup> Floor Boston, MA 02110-2600



Application Serial Number	09/774,165
Filing Date	January 26, 2001
First Named Inventor	Chen
Group Art Unit	3742
Examiner Name	M. Paschall
Attorney Docket No.	ASX-015CP

**FEE CALCULATION (continued)**

1. ☒ ~~TRADE SECRET~~ Enclosed:  
☒ Check ☐ Money Order ☐ Other
- 
2. ☒ The Commissioner is hereby authorized to credit or charge any fee indicated below for this submission to Deposit Account No. 50-3081.  
☐ Required Fees (copy of this sheet enclosed).  
☒ Additional fee required under 37 CFR 1.16 and 1.17.  
☒ Overpayment Credit.
3. ☐ Applicant claims small entity status.

## 1. FILING FEE

### Large Entity

**Fee (\$)**

### Fee Description

**Free Paid**

770	Utility filing fee
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340 Design filing fee

160 Provisional filing fee

Number  
Filed

Number  
Extra

Rate

Amount

**Total Claims**                      - 20 =                      x \$ 18.00 =

Independent  
Claims                      - 3 =                      x \$ 86.00 =

☐ Multiple Dependent Claim(s), if any \$290.00 =

**TOTAL:**

**SMALL ENTITY DISCOUNT:**

<b>SUBTOTAL (1)</b>	<b>(\$)</b>	<b>0.00</b>
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## 2. AMENDMENT CLAIM FEES

Claims  
Remaining  
After Amen

Highest No.  
Previously  
Paid For

Present  
Extra

Rate

Fee Paid

**Total**                      -                      =                      x \$ 18.00 =

Indep.                    -                    =                    x \$ 86.00 =

☐ First Presentation of Multiple Dep. Claim + \$290.00 =

TOTAL: (\$)

SMALL ENTITY DISCOUNT:	(0)
	(\$)

<b>SUBTOTAL (2)</b>	<b>(\$)</b> 0.00
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### CORRESPONDENCE ADDRESS

Direct all correspondence to:

**Patent Administrator  
Proskauer Rose LLP  
One International Place, 14<sup>th</sup> Floor  
Boston, MA 02110  
Tel. No.: (617) 526-9600  
Fax No.: (617) 526-9899**

### SIGNATURE BLOCK

Respectfully submitted,

Date: May 13, 2004  
Reg. No.: 36,471  
Tel. No.: (617) 526-9800  
Fax No.: (617) 526-9899

**Joseph A. Capraro, Jr.**  
Attorney for the Applicants  
Proskauer Rose LLP  
One International Place, 14<sup>th</sup> Floor  
Boston, MA 02110



PATENT  
Attorney Docket No. ASX-015CP

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Alexandria, VA 22313-1450

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of these documents are enclosed.

**REMARKS**

In accordance with the provisions of 37 C.F.R., this statement is being filed (check one)

- ☐ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- ☒ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☒ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or

- ☐ (3) after the mailing date of a final action or notice of allowance but before the payment of the issue fee, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

#### STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that [check the appropriate space only if either (2) or (3) is checked on the previous page and the Statement is required]:

- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☐ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

On April 3, 2003, Advanced Energy Industries, Inc. ("Advanced Energy") filed a Complaint in the United States District Court, District of Colorado (Civil Action No. 03-WM-0573 (CBS)) seeking a Declaration Judgment that certain of its reactive gas sources do not infringe three patents owned by MKS Instruments, Inc.'s ("MKS's") subsidiary Applied Science and Technology, Inc. ("ASTeX"). The patents at issue in the Colorado lawsuit include U.S. Patent No. 6,150,628, U.S. Patent No. 6,338,226, and U.S. Patent No. 6,486,431. The subject application is a continuation-in-part of U.S. Serial No. 09/774,165, which is a continuation-in-part of U.S. Patent No. 6,486,431, which is a continuation of U.S. Patent No. 6,150,628. On May 14, 2003, MKS moved to dismiss or transfer the Colorado lawsuit.


On May 14, 2003, MKS and its subsidiary ASTeX filed a Complaint in the United States District Court, District of Delaware (Civil Action No. 03-469-JJF) alleging that Advanced Energy was infringing five patents owned by ASTeX by making, offering for sale and selling certain reactive gas sources. The patents at issue in the Delaware lawsuit include the patents at issue in the Colorado lawsuit, U.S. Patent No. 6,552,296, and U.S. Patent No. 6,559,408. On July 10, 2003, Advanced Energy moved to dismiss or transfer the Delaware lawsuit. On December 24, 2003, the Colorado Court ordered the lawsuit transferred to the United States Court, District of Delaware. Discovery is proceeding on a schedule set by the United States District Court, District of Delaware. A Markman hearing in the Delaware lawsuit was held on January 13, 2004, and a jury trial is scheduled for late July 2004.

On February 12, 2004, the Delaware Court issued a Memorandum Opinion and Order (collectively, a "Markman Ruling") in which it construed certain claim terms. Applicant does not believe the Markman Ruling is material to patentability. However, in light of Defendant's previous assertions (see Applicant's Supplemental Information Disclosure Statement, dated January 9, 2004), the attached materials are being provided to the U.S. Patent Office out of excess caution. Further, Applicant has become aware of additional patents and publications during the course of the Delaware lawsuit. These patents and publications also are cited on the PTO-1449 Form.

Respectfully submitted,

Date: May 13, 2004  
Reg. No.: 36,471

Tel. No.: (617) 526-9800  
Fax No.: (617) 526-9899

  
\_\_\_\_\_  
Joseph A. Capraro, Jr.  
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One International Place  
14<sup>th</sup> Floor  
Boston, MA 02110



FORM PTO - 1449				ATTY DOCKET NO.: ASX-015CP			
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT				APPLICANTS: Chen et al.			
				SERIAL NO.: 09/774,165			
				FILING DATE: January 26, 2001			
				GROUP: 3742			
<b>U.S. PATENT DOCUMENTS</b>							
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A124	2,981,902	04/25/1961	Familier	333	17	06/22/1959
	A125	3,509,500	04/28/1970	McNair et al.	334	47	12/05/1966
	A126	3,794,941	02/26/1974	Templin	333	17	05/08/1972
	A127	3,906,405	09/16/1975	Kommrusch	333	17	07/01/1974
	A128	4,095,198	06/13/1978	Kirby	333	32	01/31/1977
	A129	4,201,960	05/06/1980	Skutta et al.	333	17	05/24/1978
	A130	4,486,722	12/04/1984	Landt	333	17	02/18/1982
	A131	4,486,723	12/04/1984	Lysobey	333	17	01/06/1983
	A132	5,277,751	01/11/1994	Ogle	156	643	06/18/1992
	A133	5,458,732	10/17/1995	Butler et al.	216	61	01/28/1994
	A134	5,474,648	12/12/1995	Patrick et al.	156	627.1	07/29/1994
	A135	5,573,595	11/12/1996	Dible	118	723 MP	09/29/1995
	A136	5,618,382	04/08/1997	Mintz et al.	216	64	06/25/1993
	A137	5,643,364	07/01/1997	Zhao et al.	118	723	05/02/1996
	A138	5,670,881	09/23/1997	Arakawa et al.	324	322	02/09/1996
	A139	6,424,232	07/23/2002	Mavretic et al.	333	17.3	11/30/1999
EXAMINER				DATE CONSIDERED			



SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT	PTO - 1449	ATTY DOCKET NO.: ASX-015CP
		APPLICANTS: Chen et al.
		SERIAL NO.: 09/774,165
		FILING DATE: January 26, 2001
		GROUP: 3742

## U.S. PATENT DOCUMENTS

EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A140	6,459,066	10/01/2002	Khater et al.	219	121.41	06/08/2001

## FOREIGN PATENT DOCUMENTS

EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B7	39 42 560 C2	05/02/1996	DE				NO	YES - Translation
	B8	2056702	03/20/1996	RU				NO	NO
	B9	2094961	10/27/1997	RU				NO	NO

## OTHER ART, JOURNAL ARTICLES, ETC.

EXAM INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)
	C126	Heckman et al., Advanced Energy Marketing Materials, "The Evolution of RF Power Delivery in Plasma Processing," (Copyright 1998) pp. 1-8.
	C127	Advanced Energy Marketing Materials, "Introducing Power Supplies and Plasma Systems," (Copyright 1992) pp. 1-8.
	C128	Advanced Energy Marketing Materials, "Impedance Matching," (Copyright 1992) pp. 1-8.
	C129	Advanced Energy Industries, Inc., Presentation "Advances in 13.56 MHz Applications" by Knipp (date unknown) pp. 1-32.
	C130	<u>CRC Handbook of Chemistry and Physics</u> (1979-1980) pp. E-60.
	C131	Eckert, "The Hundred Year History of Induction Discharges," <u>Proceedings of The Second Annual International Conference of Plasma Chemistry and Technology</u> (November 12-13, 1984) pp 171-202.
	C132	Foutz, "Switching-Mode Power Supply Design" (January 17, 2001) pp. 1-3

EXAMINER	DATE CONSIDERED
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FORM PTO - 1449		ATTY DOCKET NO.: ASX-015CP
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT		APPLICANTS: Chen et al.
		SERIAL NO.: 09/774,165
		FILING DATE: January 26, 2001
		GROUP: 3742
<b>OTHER ART, JOURNAL ARTICLES, ETC.</b>		
EXAM INIT.		<b>OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>
	C133	Gale et al., "Characterization of a Micromachined Electrical Field-Flow Fractionation ( $\mu$ EFFF) System" (no date) pp. 1-6.
	C134	"An Intelligent Solution to RF Load-Power Variability," Vol. 2, No. 3, 3 <sup>rd</sup> Quarter (1995) pp. 1-8.
	C135	Lenk, "Switching Power-Supply Basics," <u>Simplified Design of Switching Power Supplies</u> (1995) pp. 1.
	C136	"Linear Circuit Analysis," <u>Electrical Engineering Handbook</u> , (Copyright 1993) pp. 85.
	C137	Massey, "Fabric antennas for mobile telephony integrated within clothing" (no date) pp. 1-4.
	C138	Memorandum Opinion, US District Court for the District of Delaware dated February 12, 2004.
	C139	Order, US District Court for the District of Delaware dated February 12, 2004.
	C140	Pressman, <u>Switching Power Supply Design</u> , (no date) pp. xvii.
	C141	"Principals and Techniques," <u>Electrical Engineers' Handbook</u> , (Copyright 1997) pp. 3.40-3.41.
	C142	<u>Remote Plasma Source</u> Chapter 2, (March 2001) pp. 2-1 - 2-6.
	C143	Ulanov et al., "Study of the Transformer-Coupled Induction Toroidal Discharge for Development of Plasma-Chemical Reactors and New Light Sources," (date unknown) pp. 1-19.
	C144	Talanov et al., "Measurement of the absolute penetration depth and surface resistance of superconductors and normal metals with the variable spacing parallel plate resonator," <u>Review of Scientific Instruments</u> , Vol. 71, No. 5 (May 2000) pp. 2136-2146.
EXAMINER		DATE CONSIDERED